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EXAMINER

RAHMJOO, MANUCHER

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Please find below and/or attached an Office communication concerning this application or proceeding.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 15

Application Number: 09/715,600
Filing Date: November 17, 2000
Appellant(s): SCHINNERER ET AL.

M. Pual Qualey

For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 03/01/2004.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

Appellant's brief includes a statement that claims 1- 19 stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

Some of the following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

6400374	Lanier	6-2002
5510832	Garcia	4-1996
6067098	Dye	5-2000
5742333	Faris	4-1998
6466205	Simpson	10-2002
5523886	Johnson- Williams	6-1996
5790086	Zelitt	8-1998
6351280	Benton	2-2002
6400361	Toffolo	6-2002

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1- 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Garcia, US Patent 5,510,832, hereinafter, Garcia.

As per claims 1,11,15, and 17 Garcia teaches receiving the active stereo video data containing the right channel pixel data and the left channel pixel data corresponding to the image to be rendered see for example column 6 lines 16- 38; re-sequencing (field displacement and offsetting) the right channel pixel data and the left channel pixel data see for example claim 7b and in column 13 lines 45- 59; and simultaneously outputting corresponding frames of the right channel pixel data and the left channel pixel data for displaying the image to be rendered in passive stereo see for example column 6 lines 17- 32.

As per claims 2 and 12 Garcia teaches a frame rate of the pixel data simultaneously output for displaying the image to be rendered in passive stereo is approximately one half of a frame rate of the pixel data of the active stereo video data see for example column 11 lines 1- 15 and column 12 lines 1- 11.

As per claims 3 and 18 Garcia teaches receiving the active stereo video data from multiple digital video data streams, each of the multiple digital video data streams being provided by a graphics pipeline, each graphics pipeline being configured to process pixel data corresponding to at least a portion of the image to be rendered see for example in column 11 lines 56- 67 and figure 5 through stream of sequential video frames.

As per claims 4 and 13 Garcia teaches providing a first left channel frame buffer, a second left channel frame buffer, a first right channel frame buffer, and a second right channel frame buffer; and wherein the step of re-sequencing the right channel pixel data and the left

channel pixel data comprises the step of: allocating the right channel pixel data and the left channel pixel data to the first left channel frame buffer, the second left channel frame buffer, the first right channel frame buffer, and the second right channel frame buffer see for example column 12 lines 11- 34 through sequential frames of data being buffered.

As per claims 5,14,16 and 19 Garcia teaches buffering a first frame of the right channel pixel data; buffering a first frame of the left channel pixel data; simultaneously providing the first frame of the right channel pixel data and the first frame of the left channel pixel data for displaying the image to be rendered; determining whether a second frame of the right channel pixel data and a second frame of left channel pixel data are ready for simultaneously providing; and if the second frame of the right channel pixel data and the second frame of left channel pixel data are not ready for simultaneously providing, again simultaneously providing the first frame of the right channel pixel data and the first frame of the left channel pixel data see for example column 12 lines 11- 34 while the next input frame data is being acquired, the previously acquired and stored frames are displayed through sequential frames of data which are buffered.

As per claim 6 Garcia teaches receiving a first of the multiple digital video data streams containing three dimensional pixel data corresponding to the image to be rendered; and receiving a second of the multiple digital video data streams containing two dimensional pixel data corresponding to the image to be rendered in column; and combining the two-dimensional pixel data and the three-dimensional pixel data see for example column 5 lines 20- 37.

As per claim 7 Garcia teaches replacing at least a portion of the pixel data provided by the second of the multiple digital video data streams with at least a portion of the pixel data provided by the first of the multiple digital video data streams see for example column 6 lines 4-

15 and column 11 lines 25- 47.

As per claim 8 Garcia teaches utilizing chroma- key values for allocating the right channel pixel data and the left channel pixel data see for example the abstract and column 9 lines 63- 67 and column 10 lines 1- 3.

As per claims 9 and 10 Garcia teaches utilizing over scanned information contained in the active stereo video data for allocating the right channel pixel data and the left channel pixel data and one of various left and right channel buffers see for example column 11 lines 25- 47 and column 12 lines 12- 34.

Response to arguments

Appellant argues that Garcia fails to teach or suggest the use of "passive stereo" in the context of simultaneously outputting corresponding frames of right channel data and the left channel data for displaying the image to be rendered in passive stereo. The term passive stereo, as defined by the applicants through the specification, is referred to as presentation of simultaneous channels i.e., one channel being associated with the left eye of the viewer (the "left channel") and the other being associated with the right eye of the viewer (the "right channel"), of video display. The appellant further exemplify through the specification as well as in the appeal briefing that "**typically**, passive stereo is facilitated by the use of headgear which is configured to allow each eye of the viewer to view only one of the simultaneously displayed channels of video".

In response, the examiner would point out to the present invention utilizing a time-multiplexing display technique. There are two incoming video streams, one from each lens or camera in the binocular vision apparatus and each lens or camera in the binocular vision apparatus and each eye therefore receives one stream of video data which corresponds to the **"active input stereo"** see column 11 lines 25- 32.

For Garcia to go from **"active stereo"** to appellant's so called **"passive stereo"**, Garcia teaches that in a time multiplexed systems, two fields or frames of video information are stored in the display buffer and scanned out to the display, which is driven at **twice its normal refresh rate**. The specification also states on page 66 that active stereo video data is typically provided at 120 HZ, with the framed left channel data being provided at 60 times per second and the framed right channel data being provided at 60 times per second in a channel alternating format which is equaling to the two field or frames of video with twice the refresh rate. Therefore in one scan interval, i.e., one field or frame period, two fields or frames of video are scanned out, one to each eye (**the "left" and "right" channels**). These systems require synchronized shutter glasses to properly decode the displayed video, e.g., so that the **left eye** always sees the first of the time multiplexed images and the second eye (**right eye**) sees the second image in each display interval which correspond to the applicant's definition of passive stereo of one channel being associated with the left eye of the viewer (the "left channel") and the other being associated with the right eye of the viewer (the "right channel"), of video display see column 11 lines 32- 41.

Garcia clearly shows in figure 5 inputting **sequential video frames F1, F2, and**

F3 in a active stereo (input video). In figure 5 step 452 the input video streams passes in a **predetermined order** (frames of a particular order into a predetermined order).

The present invention also uses time multiplexing but in the present invention each eye views its own copy of the single input video stream, as depicted graphically in FIG. 5, which is altered according to the 3D synthesis processing methods of the present invention, i.e. , spatially offset and temporally offset (i. e., time delayed). The multiplexed video signals are output on a single line to a monitor 200 for viewing (**simultaneous viewing of the left and right channels**) see column 11 lines 41- 47, and figure 5.

Appellant also argues that Garcia does not discuss "**converting active stereo to passive stereo video data**" as per citation of claim 1.

In response the examiner notes that there is no citation within claim 1 or any other independent claims which conforms to said limitation.


For the above reasons, it is believed that the rejection should be maintained.

Respectfully submitted,

Mike Rahmjoo



March 22, 2004

conferree - 

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